Jones & DeMille Engineering

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infrastructure professionals

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Monticello, UT 84535
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38 West 100 North
Vernal, UT 84078
435.781.1988

May 3, 2018

Division of Drinking Water
195 North 1950 West
Salt Lake City, UT 84116

RE: Henrieville Town Culinary Water Improvements

To Whom It May Concern:

In 2016, Henrieville Town's culinary water transmission line failed, disconnecting their sole source of water to the town and leaving them without water for several weeks. Because Henrieville Town has over 100 culinary water connections, they are required to have two sources of diversion in order to avoid such emergencies. As a result of the failure, and the lack of a secondary source, the town applied for funding to replace the transmission line and perform a hydrogeologic study to evaluate their existing source and search for potential new sources in order to hopefully secure a second source of diversion. Bids for the replacement of the transmission line came in very favorable and construction of the new line was completed in 2017 with a substantial savings.

The hydrogeologic study was conducted in 2017 following the completion of the construction phase of the project and the findings of the study showed there were two potential geologic targets in Henrieville. The first target is a shallow alluvial fill while the second target is the Navajo formation. The shallow alluvial target is approximately 90 to 130 feet down while the Navajo formation is very deep, approximately 1,400 to 2,000 feet down, and would be very expensive to drill. Finding an acceptable location to drill into the shallow alluvial target is somewhat difficult, but because of the relatively inexpensive cost of drilling a shallow well, it is worth the risk. The only other alternative is drilling into the Navajo formation which is much more expensive.

Henrieville Town is requesting permission to use the remaining funds from the project to drill a test well into the alluvial target to try and secure a second source of diversion in order to help avoid future disruptions in their water system resulting from having a single source of diversion and bring the town into compliance with state requirements. Should the drilling be successful, the town would then pursue permitting of the well and development for culinary use. Attached is a scope of work for this request. Phases 2 and 3 of the scope of work would only be completed if Phase 1 is successful.

Thank you for your time and consideration of this project.

Sincerely,

JONES & DEMILLE ENGINEERING, INC.

Carson DeMille

Carson DeMille, P.E.
Project Manager

1607-323

SCOPE OF WORK:

Phase 1 – Estimated Cost: $45,000

1. Prepare details and specifications for well drilling.
2. Testing for suitable well site.
3. If suitable location is found, drill a 6" diameter well.
4. Perform pump testing for aquifer parameters and quality.

Phase 2 – Estimated Cost: $9,000

1. Complete construction record documents of the well for submittal to State.
2. Complete Preliminary Engineering Report (PER) and submit to State for review and approval.
3. Prepare engineer's opinion of probable cost for equipping completed well.

Phase 3 – Estimated Cost: To Be Determined

1. Equip Completed Test Well
    a. Design Phase
        i. Perform topographic and boundary surveys as needed.
        ii. Prepare construction drawings.
        iii. Prepare specifications and project manual.
        iv. Assist in obtaining necessary ROW permits.
        v. Coordinate project with client.
    b. Bidding and Negotiation Phase:
        i. Conduct pre-bid meeting and coordinate bidding process.
        ii. Review bids and give recommendation of award of contract.
        iii. Prepare contracts for execution by contractor.
    c. Construction Phase:
        i. Conduct pre-construction and construction progress meetings.
        ii. Review shop drawings and product submittals.
        iii. Provide resident project representative services (coordinate coverage with client).
        iv. Provide construction staking.
        v. Assist client with draft O&M manual and plan of operation.
        vi. Conduct final inspection.
    d. Post Construction Phase:
        i. Prepare contract record drawings.
        ii. Provide Assistance in preparation of final operation and maintenance manual

Henrieville Town
Culinary Water Improvements
May 2, 2018

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PRELIMINARY OPINION OF PROBABLE COST

	ITEM	QUANTITY	UNIT	UNIT PRICE	COST
1	Mobilization	1	L.S.	$ 5,000.00	$ 5,000.00
2	6" Dia Well - 150 feet	1	L.S.	$ 27,000.00	$ 27,000.00
3	Well Test Pumping & Sampling	1	L.S.	$ 9,000.00	$ 9,000.00
					$ -
				Construction Subtotal	**$ 41,000.00**
1	Construction Contingency - 10%	1	Lump	$ 4,000.00	$ 4,000.00
				TOTAL PROBABLE CONSTRUCTION COST	**$ 45,000.00**
	ENGINEERING AND LEGAL PROFESSIONAL SERVICES				
1	Preconstruction Engineering	1	Lump	$ 4,000.00	$ 4,000.00
2	Preliminary Engineering Report	1	Lump	$ 6,000.00	$ 6,000.00
3	Construction Administration	1	Lump	$ 3,000.00	$ 3,000.00
4	Phase 3 Preconstruction Engineering and Construction Admin.	1	Lump	To Be Determined	
				Engineering and Legal Professional Services Subtotal	**$ 13,000.00**

TOTAL PROBABLE PROJECT COST $ 58,000.00

Henrieville Town
Presented to the Drinking Water Board
May 15, 2018

DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION GRANT

CHANGE FOR ADDITIONAL SCOPE

APPLICANT'S REQUEST

On August 4, 2016, the Drinking Water Board authorized a construction grant of $345,000 to Henrieville Town to begin emergency replacement of the Town's transmission line and other necessary construction to resolve the emergency situation.

At this point in the construction project, **Henrieville Town has a remaining contingency budget of approximately $ 99,413.** The Town would like to use these remaining funds towards additional drinking water system improvements.

STAFF COMMENTS:

The **original scope of work** includes 34,000 feet of 6-inch diameter HDPE transmission line, a new water turnout, reconstruct the source water collection box, install a low water level alarm at the storage tank, and performing a hydrogeological and source evaluation.

Henrieville is required to have a second water source as a community water system of its size. As such, Henriville would like to use the remaining funds to pursue an additional water source as a continuation of the previously completed hydrogeological and source evaluation.

Henrieville requests to following items under and expanded scope:

- Phase 1 – Estimated Cost: $45,000
  - Prepare details and specifications for well drilling, testing for suitable well site. If suitable location is found, drill a 6" diameter well and perform pump testing for aquifer parameters and quality.
- Phase 2 – Estimated Cost: $9,000
  - Complete construction record documents of the well for submittal to State. Complete Preliminary Engineering Report (PER) and submit to State for review and approval. Prepare engineer's opinion of probable cost for equipping completed well.
- Phase 3 – Estimated Cost: To Be Determined
  - Equip Completed Test Well

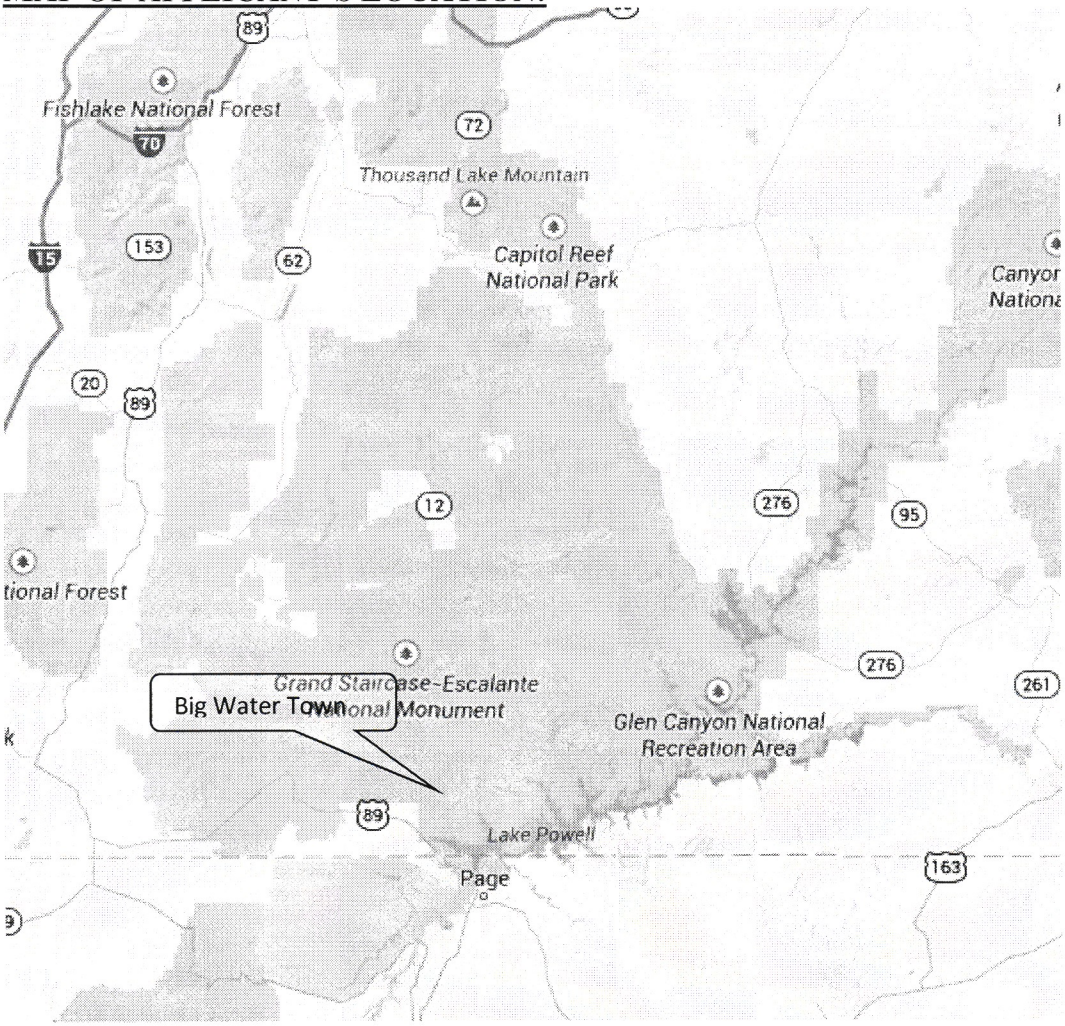
Please see the attached documentation including a discussion of the additional work and an itemized cost-estimate.

Henrieville Town
Presented to the Drinking Water Board
May 15, 2018

APPLICANT'S LOCATION:

Big Water Town City is located in Kane County.

MAP OF APPLICANT'S LOCATION:



Henrieville Town
Presented to the Drinking Water Board
May 15, 2018

CONTACT INFORMATION:

APPLICANT:	Henrieville Culinary Water System 70 West Main Henrieville, Utah 84736 435-679-8581
PRESIDING OFFICIAL	Dave Roberts Mayor 70 West Main Henrieville, Utah 84736 435-679-8581 henrievilletown@scinternet.net
RECORDER:	Marie Jagger 435-679-8581
CONSULTING ENGINEER:	Carson DeMille Jones & DeMille Engineering 1535 S 100 W Richfield, UT 84701 435-896-8266 carson@jonesanddemille.com